Successful Collaborations with Dr. S. Raman in Research on Nuclear Data in Japan

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Since early 1970, Dr. Raman visited Japan many times and has established good and fruitful relations with many scientists from universities and institutions of Japan in the nuclear data and nuclear physics fields. Those of the institutions that he visited are Institute of Nuclear Study (The University of Tokyo), Osaka University, Tokyo Institute of Technology (TIT), Japan Atomic Energy Research Institute (JAERI), Japan Nuclear Cycle Development Institute (JNC) and others. Many Japanese young researchers also stayed in Oak Ridge National Laboratory (ORNL) and worked together with him. We all remember him as a very active and warmhearted person. For many years, we had been enjoying to work with Dr. Raman and had opportunity to count on his extensive knowledge and experience in the nuclear data and other many research fields; nuclear spectroscopy, neutron capture cross section measurement, prompt neutron capture γ ray activation analysis and study of thermophysical properties of transuranium alloys.

In particular, JAERI and ORNL have conducted comprehensive studies for nuclear data measurements and evaluation of actinides and the development of minor actinide contained fuel. For these measurements, JAERI needed high-purity actinide isotope samples, such as Pu, Np, Am and Cm for reactor physics and sample irradiation experiments. Dr. Raman helped us to negotiate with DOE to borrow these valuable samples. Irradiation experiments were carried out under the US-UK fast reactor program. Dr. Raman also initiated the irradiation program and played major role in the project. After the formal agreement between JAERI and ORNL in 1988 to jointly carry out actinide studies, it took twelve years to complete the chemical analysis and numerical evaluation of analyzed data. During this period, Dr. Raman visited JAERI every year to discuss the results obtained at that time. These discussions were really a powerful locomotive to complete the project. The paper on this study was finally submitted to Nuclear Science & Engineering and accepted immediately without any corrections requested. The published results are now used as the variable data base to improve the reliability of minor actinide cross sections.

At the Conference, the successful collaborations in research and personal reminiscences that we had with Dr. Raman will be presented.

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